EXHIBIT 602

IN THE UNITED STATES DISTRICT COURT

FOR THE SOUTHERN DISTRICT OF WEST VIRGINIA

CHARLESTON DIVISION

KATHY McCORNACK, an individual; DANIEL E. McCORNACK, JR., an individual; and RALPH J. McCORNACK, a minor by and through his Guardian ad Litem, Plaintiffs, vs. ACTAVIS TOTOWA, LLC, et al., Defendants.	MDL No. 2:09-CV-0671

DEPOSITION OF RICHARD T. MASON, MD

DATE: Thursday, October 1, 2009

TIME: 2:00 p.m.

PLACE: Atlantic Aviation
1250 Aviation Avenue
San Jose, California 95110

REPORTER: ALLISON ASH-HOYMAN
Certified Shorthand Reporter
License No. 7412

A P P E A R A N C E S

For the Plaintiffs:	ERNST & MATTISON BY: DON A. ERNST 1020 Palm Street San Luis Obispo, California 93401 (805) 541-0300
For Actavis Defendants:	TUCKER, ELLIS & WEST BY: MATTHEW P. MORIARTY 925 Euclid Avenue Suite 1150 Cleveland, Ohio 44115 (216) 696-2137
For Mylan Defendants:	SHOOK, HARDY & BACON BY: ALICIA J. DONAHUE 333 Bush Street Suite 600 San Francisco, California 94104 (415) 544-1900

I N D E X O F E X A M I N A T I O N S

I N D E X O F E X H I B I T S

(Marked Deposition Exhibits 1 through 5.)

RICHARD T. MASON, MD,

having been first duly sworn by the Certified Shorthand Reporter to tell the truth and nothing but the truth, was examined and testified as follows:

EXAMINATION BY MR. MORIARTY

Q. State your full name for the record, please.

A. Richard Thomas Mason, MD.

Q. Dr. Mason, you have given testimony in trials before; is that correct?

A. Many times.

Q. And have you given depositions in civil litigation?

A. Yes.

Q. Do you know how many times you have done that?

A. Several hundred.

Q. Okay. And as you know, I'm going to be asking you questions, there is a court reporter here.

You understand that; correct?

A. Yes.

Q. And if you don't understand my question, for whatever reason, you just let me know and I will rephrase it; okay?

A. Yes.

Q. If you need to take a break, just let us know and we can do that, too; okay?

A. Okay.

Q. I assume that you have testified so many times because you have for many years been the coroner of Santa Cruz County; correct?

A. Yes. It's about 29 years now. But that's the routine in forensic medicine, forensic pathology, you do autopsies and you do courtroom testimony.

Q. Correct.

A. Part and parcel.

Q. I understand. What -- I want to show you what I've had marked as Exhibit --

Mark that as 6, please, let me withdraw that previous question.

MR. ERNST: Before we go forward I would really, just as a point of clarification.

I'm Don Ernst, I represent the Plaintiff Kathy McCornack. Can I have the respective representations so I know who is who.

MR. MORIARTY: As you know, I'm Matthew Moriarty, not Alicia Donahue, and I represent the Actavis defendants.

MS. DONAHUE: My name is Alicia Donahue from Shook, Hardy and Bacon, and I represent the Mylan

defendants.

THE WITNESS: Can I interject a little bit in here? My hearing, I'm 73 years old, my hearing is not that great. I notice you have a very soft voice. When you speak, look at me and speak up.

MS. DONAHUE: Will do.

THE WITNESS: Thank you.

(Marked Deposition Exhibit 6.)

BY MR. MORIARTY:

Q. Exhibit 6, is this your curriculum vitae?

A. It is.

Q. Is it current?

A. Yes, it is. Maybe a few more autopsies in it, but, you know, it's closer to 10,000 autopsies now.

MR. MORIARTY: Here is an extra copy stuck under there.

Q. Have you published any articles in the medical literature besides the three that are listed here?

A. No.

Q. Have you ever published anything about post-mortem redistribution?

A. No.

Q. Have you ever published anything about digoxin or digoxin toxicity?

A. No.

Q. Do you have any estimate of the number of times in your career in which you have been asked to render opinions about whether digoxin was a cause of someone's death?

A. No, I don't. They are not that common, I don't recall any other cases that I've done.

Q. All right. So you may have never been called upon to do that?

A. We normally do toxicology on all the cases. If we think digoxin is a factor, we'll ask for analysis of it. But I don't recall an issue where it was the subject of litigation.

Q. Okay. Can you recall an issue when it was a cause of death?

A. No.

Q. This is Exhibit 1. Have you ever seen this before?

A. Yes. This is our investigation report executed by the -- one of the three deputy sheriffs that are assigned to the coroner's service, that's by Naomi Silva.

Q. Do you know Naomi Silva?

A. Yes, I do.

Q. Is she a physician?

A. No, no, no. She is a deputy sheriff. A cop.

Q. All right. And this is just the three-page report of the call they received and the investigation that they did on the scene; correct?

A. Correct.

Q. All right. And what is the relationship between your office and the office of the sheriff?

A. The sheriff is the coroner.

Q. Okay. So are you the sheriff?

A. No, I'm not the sheriff. I'm sort of the de facto coroner, actually I'm a private contractor.

Q. All right. So who is the sheriff?

A. Phil Wowak is the sheriff now. He is a -- he was a lieutenant recently.

The coroner's service is in the criminal investigation bureau of the Santa Cruz County Sheriff's Department. And he was in charge of the investigation bureau, and the prior sheriff just retired and he was appointed, Lieutenant Wowak was appointed, so he is now the sheriff. He is the boss of the whole operation.

Q. Who carries the title of coroner in Santa Cruz County?

A. Well, the sheriff does.

Q. Okay.

A. I might add something here. Of the 58 counties in the State of California, the majority of them are

sheriff coroner. So the title and the authority of the coroner resides with the sheriff.

Q. All right.

A. And there is maybe about five jurisdictions, like Los Angeles, San Francisco, and Ventura County where there is some other arrangement.

Q. Okay. So you said you are a contract, or contractor employee?

A. Yes.

Q. What does that actually mean?

A. Well, it means that they don't have to provide any benefits, medical assistance or anything like that. Just take your chances, you collect your money.

Q. Okay.

A. That's the way it works.

Q. All right. Are you still employed full time or contracted full time?

A. Yes, I have been for, it's going on 30 years now I've worked for them exclusively. They represent maybe 90 percent of my time. Because of our contractual arrangement, I'm free to do other work. But from a practical point of view, it's a full-time job.

Q. All right. Can you tell, because of your familiarity with these kinds of reports, when this report, Exhibit 1, was finalized?

A. Well, it would have to be generated, you know, at or about the time we received the body. Because, you know, I'm going to be dependent on this report for the direction of my autopsy investigation.

Q. Okay.

A. So usually that report is in my hands before I do the autopsy.

Q. All right. This is Exhibit 2. This is the autopsy of yours that I had in my briefcase when I flew to California yesterday.

Can you please tell me what the date of that autopsy report is?

A. Well, the date of the autopsy is March 26, 2008, at 7:30 a.m. That's the commencing time.

Q. What's the date of the report?

A. The date of the report is the same.

Q. So you were able to perform the autopsy in one day; correct?

A. Yes.

Q. And you dictate your notes contemporaneous with either the performance of the autopsy or upon conclusion of the autopsy; correct?

A. Usually in two parts. I'll dictate the external examination of the body, then do the dissection and then dictate the dissection immediately after.

Q. So would it be fair for me to say that in the normal course of your business with the coroner's office, that this report, Exhibit 2, would have been typed and available within several days of the performance of the autopsy?

A. Yeah. I just use a hand machine and a conventional standard-sized tape cassette and it goes to a transcriptionist.

Q. Okay. And did you do any microscopic analysis of any of the specimens available to you from the McCornack autopsy?

A. No. It can still be done because the tissue is in storage, but I have not done so.

Q. Was there any particular reason why you did not do any microscopic analysis at the time you did the autopsy?

A. You know, there is a pressure to get the reports out, get the cases done. If you did -- I do about 150 autopsies, if you did histologic examinations on all of those, the cost and the time would be significant.

So we normally sign out on the basis of gross examination.

Q. Okay.

A. And then follow up with toxicology. If

toxicology comes back, something aberrant, and end up changing the diagnosis, or if it's obvious at the outset that it's some kind of suicidal ingestion of drugs or whatever, then the cause of death is pended awaiting the toxicology results.

Q. When you did the autopsy, and before you dictated the report, did you have the medications that he was on available to you, or a list of them?

A. I believe that I did, yes.

Q. Do you have an actual autopsy file on this case?

A. Yes.

Q. Is it here?

A. Yes.

Q. May I see it, please?

A. (Handing document to counsel.)

Q. Is this an extra copy?

A. Well, that is not the original -- those are copies of the sheriff's file.

I know in your subpoena you asked to have the original file. I can't do that because it belongs to the sheriff. So those are the significant documents in the sheriff's file that I have copied, so those are copies.

MR. MORIARTY: All right. I will mark this as

Exhibit 7 in just a second, but while I've got these pages open --

MR. ERNST: What are you calling Exhibit 7?

MR. MORIARTY: It's the file that he produced in response to my subpoena for the -- I call it the autopsy file.

Q. What do you call it?

A. I call it the coroner's file. It's a coroner's file, really.

Q. Okay. There are some medical records in here from Dr. Lemm's office that appear to have been faxed March 24, 2008.

Did you have these available to you at the time you performed the autopsy or when you dictated the autopsy report?

A. I believe so.

Q. Did you review these records before you dictated the autopsy report that is Exhibit 2?

A. I usually review any available medical records before the autopsy. One of the functions of the investigators is to gather medical records.

Q. Sure. So you would have had some idea, based on these records, what his medications were, including Diltiazem, A digoxin product, Allopurinol, et cetera; correct?

A. Yes.

Q. Do you know who initiated the process of getting Dr. Lemm's records sent to the coroner's office?

A. The investigators would have done that.

Q. And is that common practice?

A. It's a standard operating procedure, yes, to find out who the decedent's physicians are and to obtain copies of their records.

Q. All right. And so also in here faxed the same day it appears are records, some records at least, from Coastal Cardiology.

Do you believe you had those available to you at the time you did the autopsy and the report?

A. Yes.

MR. MORIARTY: Could you mark this, please.

(Marked Deposition Exhibit 7.)

BY MR. MORIARTY:

Q. Getting back to Exhibit 2, on the first page there is a section that says Cause of Death.

Do you see this?

A. Yes.

Q. Is this, at least at the time you dictate it, your opinion to a probability as to what the cause of death is?

A. Yes.

Q. So in this case, at the time you dictated it back in March of 2008, the causes were ventricular arrhythmia; is that correct?

A. Yes.

Q. Atrial fibrillation -- well, due to atrial fibrillation; correct?

Due to hypertensive and arteriosclerotic cardiovascular disease.

Did I read those correctly?

A. Yes.

Q. What, if you recall, was the basis for your opinion that this was a ventricular arrhythmia?

A. Well, obviously I can't see arrhythmias with a dissecting knife. In a normal course of a demise due to cardiovascular disease, that's what happens. You get ventricular arrhythmia that is -- could be detected by electrocardiographic means.

You know, at the point that I'm looking at the patient, he is dead. So I am physically looking at his heart, at his heart muscle, I'm looking at his coronary arteries, and I see that he has cerebral edema and pulmonary edema, which are sort of the end points of acute heart failure, and I see that he has an enlarged, heavy heart.

He has a cardiomegaly, his heart weighs 500

grams, and there is -- there is some arteriosclerotic plaque in his coronary arteries, and essentially, you know, there is no way of knowing for a certainty unless of course you had the patient hooked up to an EKG at the time that he died. But this is by inference, I find no other major illnesses or signs of illness in the dissection of all of his internal organs, including brain and all of the chest and all the abdominal organs, so that's the conclusion you come to based on the pathology that you see.

Q. To some extent it's a diagnosis of exclusion.

A. Yeah. Sure.

Q. All right. Then Exhibit 3 was a death certificate; correct?

A. Correct.

Q. And it's not a very good copy, but showing you a page in Exhibit 7, does what you are holding in your hand as Exhibit 3 appear to mirror the contents of what was the death certificate here that's in Exhibit 7?

A. Yes.

Q. All right. And the causes of death in the death certificate are essentially the same as those in the original autopsy report, which is Exhibit 2; correct?

A. Correct.

Q. Now, these recent changed certificates of death and autopsy reports, Exhibits 4 and 5, are they in Exhibit 7, which is the coroner's file?

A. They are now.

Q. Well, the Exhibit 7 that I have does not contain them; is that true?

A. No. But they are in the coroner's file at the present time. This is an earlier copy of the coroner's file, so they are not there.

Q. When were the Exhibits 4 and 5 reports added to the coroner's file?

A. Yesterday.

Q. When was Exhibit 4 prepared?

A. It was prepared at the conclusion of the autopsy. Probably on the same day that the autopsy was concluded.

Q. You are talking about the new autopsy report?

A. You are asking when Exhibit 4 was prepared.

Q. Yes, that's a new death certificate. It has different causes of death than those listed in the original death certificate, which is Exhibit 3.

A. No, no. This is a copy of the old death certificate. It's the way -- and on the second page is a copy of the amendments to the death certificate. That was prepared yesterday.

Q. Okay.
A. On the first page is the --
Q. I got it.
A. -- original death certificate.
Q. So just for clarity of the record, Exhibit 4 is a two-page exhibit; correct?
A. It is, yes.
Q. So the first page of Exhibit 4 is essentially the same as Exhibit 3; correct?
A. Yes.
Q. The second page of Exhibit 4 is an amendment, as you call it; correct?
A. Correct.
Q. When was it prepared?
A. Yesterday.
Q. Exhibit 5 is an autopsy report with new conclusions on the first page.
Do you agree with me?
A. Yes.
Q. When was it prepared?
A. Yesterday.
Q. Please, at any time in answering my questions you are more than welcome to refer to any of these; okay?
A. Yes.

Q. My memory of the investigation reports is that Mr. McCornack was pronounced dead at 12:52 a.m. on March 23rd, 2007; is that correct?

A. Yes.

MR. ERNST: I don't believe that's correct. I believe you misstated the year.

MR. MORIARTY: I'm sorry.

THE WITNESS: '09?

MR. MORIARTY: '08.

MR. ERNST: Oh, I'm sorry. '08. I think we have got three different dates here, and all of us --

MR. MORIARTY: I'm good at fixing my own mistakes.

MR. ERNST: Fine.

BY MR. MORIARTY:

Q. But Mr. Ernst is correct, I made a mistake.

According to the materials, Mr. McCornack was pronounced dead at 12:52 a.m. March 23rd, 2008; am I correct?

A. Yes.

Q. And that is reflected in Exhibit 1, the Summary of Investigation by the sheriff's office; correct?

A. Correct.

Q. And as far as I can tell from Exhibit 2, the original autopsy report, this autopsy was started on

March 26th at 7:30 a.m.; is that correct?

A. Correct.

Q. Some 78 to 79 hours post pronouncement of death; correct?

A. Correct.

Q. During the autopsy on March 26, 2008, according to Exhibit 2 -- let me withdraw that. I have to find what I'm looking for.

A. Perhaps I could help you.

MR. ERNST: Are you looking for something? I will help you, if you wish.

MR. MORIARTY: I'll find it or die trying.

THE WITNESS: That's what I like about old farts, they never give up.

MR. MORIARTY: Takes one to know one.

THE WITNESS: Exactly.

MR. ERNST: Eureka.

Can you go to where you are referring to?

MR. MORIARTY: Yes.

Q. Exhibit 1, the sheriff's report.

First of all, it says here on the third page -- sorry, second page, I'm having a lot of trouble with my math today.

Let me withdraw my question and start over; okay?

I'd like you to look at Exhibit 1; okay? It's the sheriff's investigation report. Do you have it there?

A. Yes.

Q. All right. On the second page, the last paragraph, it begins Dr. Richard T. Mason, a forensic pathologist, performed an autopsy on March 26, 2008 at approximately 7:30 a.m.; correct?

A. Correct.

Q. Now, did you have a discussion with Naomi Silva or some other investigator about your autopsy findings after you were done?

A. Normally we have got a half-page form that contains the lines and the arrangement for the investigator. Again in a sheriff coroner service, they don't want a physician signing the death certificate. This usurps their authority. The death certificates are signed by direct police officers, sheriff's deputies, who are under the command of the sheriff, who is the coroner.

So I fill out this form and represent to them what should be put on the death certificate, and that's what I do. It's about a half-page form and it shows the lines. And I fill out what I want to see on the death certificate. And that's the way it's done.

Q. I presume you followed your practice in this instance?

A. I did.

Q. Do you know whether you also had a discussion with the investigator?

A. No, I don't recall there was any discussion with the investigator.

Q. Would you typically have one?

A. You know, if there was other ancillary investigative, you know, investigative findings, or if it was something to do with police activity, they were going to arrest somebody or weapons or something of that, I normally would. But on a natural -- what was apparently a natural death with medical causes, I probably wouldn't.

Q. Okay. It also says here, beginning at the middle of the fourth line, "during the examination, Dr. Mason collected post-mortem cardiac blood, urine and liver tissue specimens for toxicological testing at the National Medical Services Laboratory."

Do you see that statement?

A. I do. It's incorrect.

Q. What would be the basis for this investigator writing that in his or her report?

A. She is making an assumption. She didn't ask

me.

Q. What -- how do you label the specimens once you have drawn them?

A. Well, there is essentially a test tube rack, and so I'm collecting -- in virtually every case I collect blood, urine, liver tissue. And at the conclusion of the autopsy I fill out the requisition form and I mark the source of the blood.

Q. Is that requisition form in Exhibit 7?

A. Yes, I think it is. I saw it in there.

Q. Can you find it for me, please.

A. Okay. This is a copy of a National Medical Services form which they give to us. It's a multi-page carbon copy form, and on that form I check the source of the blood, as to whether it's cardiac or peripheral.

Q. Okay.

A. And then in that particular case I checked peripheral, so that's what it is. And normally the collection -- post-mortem blood clots, first off, and then it re-liquefies.

So my usual source of peripheral blood are the axillary veins, you know, I'm taking a five-inch skinning knife and I'm essentially removing all soft tissue from the chest going down into the axillary area, and I deliberately cut across the axillary vein, and

just pick the blood up in a measuring cup as it flows from that vessel.

And then I put it in the containers myself and make sure it gets mixed with the anti-coagulant myself. Then I just put it in my test tube rack and I label them at the conclusion of the autopsy.

Q. Okay?

MR. ERNST: Before we go any further, there was a form that was used that was in Exhibit 7. I would like that marked, identified, so that we can specifically refer to it later. And if you want to mark it --

MR. MORIARTY: It won't be hard for him to find it later.

MR. ERNST: No, I want it marked now so --

MR. MORIARTY: You got a Post-It note?

MR. ERNST: I don't, but I'm sure the court reporter does.

MR. MORIARTY: Do you have a Post-It note?

THE REPORTER: No.

MR. ERNST: Well, let's use one of those, mark it 7 sub A, if you wish.

MR. MORIARTY: We can mark it as an exhibit later, I don't want to stop.

MR. ERNST: Why don't we just mark it next in

order and reflect it as contained in Exhibit 7. I think that would be the most appropriate thing to do.

THE WITNESS: Some Post-It notes, fluorescent ones.

MR. MORIARTY: Perfect.

THE WITNESS: It's smaller.

MR. MORIARTY: I am flagging with a Post-It note the requisition form that Mr. Ernst is referring to and we will later mark this as a separate Exhibit 7A.

MR. ERNST: You want to mark it 7A, or next in order and reflect that it's contained in 7?

MR. MORIARTY: Okay, we will mark it No. 8 later and get a separate copy of it.

MR. ERNST: Just so the record is clear, Exhibit 8 is the requisition form -- what did you call it?

THE WITNESS: It's the National Medical Services form which they provide us.

MR. MORIARTY: You don't have to take that apart, Doctor. We will mark it later.

MR. ERNST: Thank you.

(Marked Deposition Exhibit 8.)

BY MR. MORIARTY:

Q. Now, do you ligate any section of that vessel before you do the specimen draw for the blood?

A. No.

Q. Your routine, when you say it's peripheral, is to draw from an axillary vein; correct?

A. Yeah. Normally you grab the arm by the wrist and run your hand down the arm, squeeze that juice out of there. It doesn't -- sometimes it doesn't flow quite readily and you get a big puddle of it in the axilla and pick it up.

Q. So that many hours after death, what is the relative quality of an axillary specimen of blood versus a cardiac specimen of blood?

A. Well, what do you mean by "quality"? Do you want to transfuse it or drink it or what? We refrigerate our bodies so they don't go bad. You know. Just like any sort of meat.

And you -- after you have done this work for about 40 years you can tell the quality of the remains, whether there is any decomposition change or not. And our refrigerators are the same temperature as your home refrigerators, it's about 40 degrees Fahrenheit.

Q. So I take it you believe that the quality of the specimen for purposes of a forensic analysis between a heart and an axillary vein is comparable; is that what you are telling me?

A. Yeah. In fact if you talk to the

toxicologists, they prefer peripheral blood, if you can get it. Sometimes you can't, in which case you use the heart blood, mostly from the venous side, but the toxicologists prefer the peripheral blood as a more representative sample.

Q. Okay. Who chose National Medical Services lab?

A. Fate. They are virtually the only halfway decent lab in existence that does coroner's toxicology. We had a very good lab in Northern California associated with a private group that did The Alameda County coroner's work and they went out of business. And I think there is one other lab in Northern California.

This laboratory has a pretty heavyweight reputation and they are noted to do good work in forensic analysis. So we use them.

Q. Have you ever talked to anyone at NMS labs about anything about the McCornack case or the McCornack specimens?

A. No, I haven't.

Q. Now, the Exhibit 7 contains -- somewhere in here -- Exhibit 7 contains a June 24, 2008 report from NMS labs, does it not?

A. It does, yeah.

Q. And this particular report is three pages long; correct?

A. Correct.

Q. And this report June 24, 2008, contains the 3.6 nanograms per milliliter digoxin post-mortem blood result, does it not?

A. It does.

Q. When was the first time you ever looked at this June 24, 2008 NMS lab report?

A. That's a very good question. I don't remember. Someone called it to my attention.

Q. But certainly you never changed the death certificate or the autopsy report or made any amendments to it before yesterday; correct?

A. Correct.

Q. Do you know whether there is a signed version of exhibit --

We are missing an exhibit here, I think you have it, Tom.

MR. ERNST: No. This one is mine. It's my copy of Exhibit 1.

MR. MORIARTY: The death certificate is missing.

I'm going to blame you for everything today and it's going to be my mistake every time.

MR. ERNST: The record should reflect the death certificate was under Mr. Moriarty's left elbow.

MR. MORIARTY: And it's not even Exhibit 1, it's Exhibit 3.

Q. Do you know if there is a signed version of Exhibit 3?

A. There should be. Obviously it requires a signature. Naomi Silva would have signed it. It was her case.

Q. I notice that there is not a signed version in Exhibit 7, either. If there is a signed version, where would that be?

A. You know, it would be on file with the state vital statistics office. Everything is done by computer now. You could call it up.

Q. Is -- to the best of your knowledge, is there a particular time period in which the coroner or the sheriff is supposed to have a signed death certificate on file? If you know.

A. It's not designated in the code, I don't think. In the government -- in the State of California Government Code or Health and Safety Code. Usually it's done as expeditiously as possible.

And, you know, when the body is released there used to be a document that went along with it. They file everything electronically now, and the process is more complicated, and being computer illiterate I'm not

that familiar with it.

Q. Certainly because of the circumstances surrounding Mr. McCornack's death we didn't have any electrocardiographic printouts.

A. That's correct.

Q. At least close in time to his death; correct?

A. Correct.

Q. There are some in Exhibit 7 which were from his remote past in the records of Dr. Lemm and/or Dr. Von Dollen; correct?

A. Correct.

Q. Was NMS labs under instructions to analyze or not analyze the liver and urine samples that were sent to them?

A. The preferred analysis is blood. So unless I gave them specific instructions, which I did not, to analyze liver or blood, they would not do so.

Q. Well, the specimens were sent to them, I'm just wondering why they didn't --

A. This is a routine --

Q. -- analyze them?

A. -- that I adhere to in virtually all the cases in case something untoward comes up and you want other analyses, so I routinely send blood, urine, liver. Doesn't mean that they are going to analyze all of them.

Q. All right. At any point before today's deposition have you seen any NMS lab results of potency testing of any of Mr. McCornack's digoxin tablets?

A. No.

Q. Has Mr. Ernst told you what the results of any of the NMS lab testing of the potency of his digoxin tablets was?

A. He mentioned that he was going to have some specimens analyzed, or he has had them, but I haven't seen them and I didn't know NMS did the analysis.

Q. Do you know how many times you have met with Mr. Ernst before today's deposition regarding Mr. McCornack?

A. I met with him once before today, and then today.

Q. All right. When did you meet with him before today?

A. Wednesday, May 27, 1:00 p.m., at the jet center here.

Q. In the year of our Lord 2009?

A. Yes.

Q. Okay. Do you have any notes of what that discussion was about?

A. No.

Q. Did you say May 29?

A. May 27 of '09.

Q. Okay. Have you worked with Mr. Ernst on any other cases besides the McCornack case?

A. No.

Q. And then the only other time was meeting him today; correct?

A. Correct.

Q. How long did you meet with him today before the 2:00 deposition started?

A. We met about noon.

Q. Tell me the circumstances which led you to amend exhibit -- I'm sorry, amend Exhibit 3 into what is now Exhibit 4.

A. Well, you know, looking at the level of digoxin I had concluded it was a significant factor in the demise of Mr. McCornack, and I had intentions of amending it for quite some time, but since I've done oh, about 180 cases, it's hard to backtrack, and something was always getting in the way, some other emergent things to do with other cases.

So I wanted to get it done before we had this seance and wanted to get it done, so I did it yesterday.

Q. Okay. And I assume if I asked you the same question about the changes that caused Exhibit 2 to be amended into Exhibit 5, would you give me essentially

the same answer?

A. Correct.

Q. And I don't want to pore through this in every great detail, but as far as I can tell, the differences between Exhibit 5 and Exhibit 2 are all on the first two pages, so far as your report is concerned; is that correct?

A. Correct.

Q. And then what Exhibit 5 has that Exhibit 2 did not is the NMS April 16th, 2008 report, and the NMS June 24th, 2008 report; is that correct?

A. Correct.

Q. You've heard the phrase post-mortem redistribution before, have you not?

A. Yes.

Q. And the April 16, 2008 NMS report, which is contained in Exhibit 5, discusses, or at least refers to post-mortem redistribution in reference to a drug called Diltiazem, does it not?

A. Yes.

Q. And Diltiazem, let's talk about that a little bit, is for hypertension, is it not?

A. Correct.

Q. And it's a calcium -- in the family of calcium channel blockers?

A. Correct.

Q. Have you ever heard calcium channel blockers referred to as a basic drug?

A. Vaguely, yeah, uh-huh.

Q. Do you have any idea what they mean in the literature when they call it a basic drug?

A. You know, I don't know whether they mean it's -- its pH, whether it's basic or, I don't know. I don't prescribe cardiologic drugs, obviously.

Q. I understand.

A. I don't treat live people.

Usually, if you are referring to something as a base, it means it's alkaline.

Q. When was the last time you did treat a live person? Back in your residency?

A. No. End of '67, early days of '68, Vietnam.

Q. Do you know whether digoxin is also considered a basic drug?

MR. ERNST: Objection, vague.

A. I think it is. You know, I don't know, you know it has hydroxy groups on it, so I think it is, yeah.

BY MR. MORIARTY:

Q. All right. Have you ever read the package insert or the label for Diltiazem?

A. No. It's reproduced in the PDR, so I think I've looked at it a few times.

Q. You keep the PDR as a reference --

A. Always.

Q. -- source?

A. Yes.

Q. Do you keep Baselt toxicology texts?

A. Yes, I do.

Q. Do you keep Dart's toxicology text?

A. Dart?

Q. Dart, D-a-r-t.

A. No.

Q. To the best of your knowledge, does the Diltiazem label indicate -- let me withdraw that.

Let's not be vague. My version of the Diltiazem label that I have indicates the concomitant use of Diltiazem with beta blocker or digitalis may result in additive effects on cardiac conduction.

Would you agree with that?

A. Sounds pretty reasonable, yeah.

Q. In the drug interaction section of the Diltiazem label it indicates that pharmacologic studies indicate that there may be additive effects in prolonging AV conduction when using beta blockers or digitalis concomitantly with Diltiazem.

Would you agree with that?

A. Yeah.

MR. ERNST: Do you want to mark that label as an exhibit?

MR. MORIARTY: I don't, actually.

MR. ERNST: Just checking.

BY MR. MORIARTY:

Q. Are you familiar with studies that have -- in the toxicological literature or textbooks which indicate that Diltiazem increases serum digoxin concentrations when the drugs are used concomitantly?

A. No. I'm not familiar with that.

Q. What, to your knowledge, are the potential adverse reactions that can occur with Diltiazem?

A. I don't know. I haven't -- I don't recall.

Q. All right. The product label for Diltiazem indicates that bradycardia is one of the possible side effects.

Is that consistent with your knowledge?

A. Yes.

Q. And first degree atrioventricular block --

A. Block.

Q. -- is a potential complication?

A. Yeah.

Q. Am I correct about that?

A. Yes.

Q. Can bradycardia and first degree AV block cause sudden cardiac death?

A. Yes.

Q. It also indicates here, lists kind of a laundry list, angina, arrhythmia, AV block second or third degree, bundle branch block, congestive heart failure, electrocardiographic abnormalities, hypotension, palpitation, syncope, tachycardia and ventricular extrasystole.

A. Are those potential complications consistent with your knowledge and experience?

MR. ERNST: Objection, compound.

And if you are going to persist in asking questions from the label, I would ask that it be marked as an exhibit and let him review the label. You are reading it and he is being questioned.

MR. MORIARTY: That's fine.

A. Yeah. Sounds reasonable.

BY MR. MORIARTY:

Q. Okay. The NMS report in Exhibit 7, both the one April 16 and the one June 24th, in reference to Diltiazem say in addition, Diltiazem is reported to undergo post-mortem redistribution with an average heart blood/femoral blood ratio of 2.6.

Do you agree that Diltiazem undergoes post-mortem redistribution?

A. Yes.

Q. Did you ever -- I'm sorry, did you ever look up whether the 630 nanograms per milliliter was a level, a Diltiazem level that was within the normal laboratory range or outside the normal laboratory range?

A. It's a little bit high.

Q. It's a lot a bit high, isn't it?

A. I think 400, 450 is the normal upper level that one would prefer.

Q. Well, the NMS report says the therapeutic blood levels of Diltiazem appear to be in the range of 50 to 200 nanograms per milliliter.

I'm just going based on their report.

A. Yes, okay.

Q. So this is some three times the upper level of normal; correct?

A. Yes.

Q. Did you ever put in either Exhibit 5 or the amendments to -- which turned into Exhibit 4, that Diltiazem was a possible cause of his death?

A. No.

Q. Why not?

A. I just thought the digoxin was more

significant.

Q. Let's talk about digoxin.

Do you have any clinical experience to indicate whether a digoxin level of 3.6 standing alone indicates that the patient is digoxin toxic?

A. Well, I don't have any clinical experience, since everybody that I treat is dead.

Q. Okay.

A. So, you know, I go by the major textbooks and what they have to say about it. Harrison's Principles of Internal Medicine is my primary reference.

Q. Well, does Harrison's indicate that a serum digoxin concentration of 3.6 standing alone means that the patient has digoxin toxicity?

A. Well, they indicate that, you know, the upper level efficacy, and the level at which you begin to see untoward effects, is something like two nanograms per mil.

Q. Untoward effects in digoxin toxicity at a level of 3.6 don't include death, usually, do they?

MR. ERNST: Objection.

Go ahead. You can answer the question.

A. If you get a ventricular arrhythmia they do.

BY MR. MORIARTY:

Q. Do you know of any study to indicate that

patients are likely to get a ventricular arrhythmia and die with a serum digoxin concentration of 3.6?

A. All I can tell you is it is a toxic level. No, I haven't --

Q. In fact, actually all you are able to tell us is that it is an elevated level; is that correct?

A. Well, according to what I read it's a toxic level.

Q. "Toxic" does not mean death in all cases, does it?

MR. ERNST: Objection. He has explained that.

A. No. It doesn't necessarily mean death in all cases, no.

BY MR. MORIARTY:

Q. All right. Did -- in the last day or so, as you were preparing Exhibits 4 and 5, did Mr. Ernst tell you anything about what the NMS laboratory forensic toxicologist had to say about the 3.6 post-mortem dig-level that they reported and are contained in your Exhibit 7?

A. No. I assumed since they didn't tell me anything and -- you know, they won't tell him anything because they didn't have anything to say about it.

Q. Did Mr. Ernst tell you that I took the NMS forensic toxicologist's deposition Tuesday in

Philadelphia and examined him extensively about the PMR, or the post-mortem digoxin level of 3.6?

A. He mentioned that there had been a deposition, but I didn't -- he didn't say anything about what the deponent had to say.

Q. Would it be of any interest to you to know what a forensic toxicologist said about the post-mortem digoxin level of 3.6 that their own lab performed?

A. Yeah, it would, because the asshole didn't put anything in his report and I would hope he would convey something to me. That's what we pay them for. But they are very noncommittal, so I would be really anxious to hear what he had to say.

Q. Did you ever pick up the phone and call him?

A. No, I didn't.

Q. Did you e-mail him?

A. No, I didn't.

Q. Have you done any research about post-mortem redistribution with digoxin?

A. No, I haven't.

Q. Do you keep any literature file regarding post-mortem redistribution of drugs in general?

A. You know, if you are taking blood from a peripheral blood, I don't think it's a major problem. Certainly if you are taking heart blood and you have

tissue like myocardium, which is going to have some digoxin in it, and the blood is sitting in there and then you are taking a sample of that blood, I think post-mortem redistribution would be significant.

But if it's out on the periphery, I'm not sure that it comes into play here.

Q. Is it the consensus of the forensic toxicology community that you cannot calculate with scientific probability someone's predeath drug level based on a post-mortem finding?

MR. ERNST: Objection, that calls for speculation and asks his opinion about -- calls for speculation.

BY MR. MORIARTY:

Q. Go ahead.

A. I would like to hear that question again.

MR. MORIARTY: Read it back, please.

(Record read as requested.)

MR. ERNST: I object. What basis does he have for the consensus of the toxicology community?

MR. MORIARTY: If he doesn't have a basis, he can tell me. I think he said before this he was a professional witness, so I'm sure he can tell me if he has no basis to answer that question.

A. If your toxicologist or my toxicologist

actually made that statement, I would like to see it in print in that deposition, because it surely doesn't make too much sense.

Why are we doing these analyses if the results have absolutely no significance? It sounds like the purest form of bullshit I have ever heard.

BY MR. MORIARTY:

Q. Have you been asked by Mr. Ernst or anyone else to attempt a calculation of what Mr. McCornack's serum digoxin level was at the time of or just before he died?

A. No.

Q. In your opinion in general, does digoxin redistribute post-mortem?

A. I would think it would, or it could in a heart blood specimen. In a peripheral specimen I would not expect that to be a problem.

Q. I want to read you a quotation from Baselt's toxicology text, the one you keep in your office. Page --

MR. ERNST: Do you have a reference?

MR. MORIARTY: Page 462.

Q. "It has been determined that serum digoxin levels nearly always increase after death due to leaching from muscle, with an average post-mortem/antemortem ratio ranging from 1.42 for

femoral vein blood specimens, to 1.96 for heart blood specimens."

Do you agree with that statement?

A. I've seen it.

MR. ERNST: Would you like to attach that sheet as an exhibit as well?

MR. MORIARTY: No.

Q. Do you agree with it?

A. I'm sorry, what page was that from?

Q. 462.

A. What book is this?

Q. Baselt's Eighth Edition, Disposition of Toxic Drugs and Chemicals In Man.

He is looking at a different edition is all I know. Do you have a different edition?

A. Seventh.

Q. My question is: Do you agree with the statement that I read?

A. No. I don't even really consider it. I'm looking at the levels of drug that I got out of a peripheral blood sample. It's well into a toxic level and I don't know what to say about your question.

Q. Was the McCornack blood specimen frozen before it was sent to NMS labs?

A. No.

Q. Was it centrifuged?
A. No.
Q. Does moving a body after death affect post-mortem redistribution?
A. I wouldn't think so, unless you are doing something that approximates cardiac massage. I don't -- I've never heard that.
Q. Is it well known that the time between death and the draw of the blood specimen is a significant factor to consider in whether the post-mortem specimen would accurately reflect antemortem levels?
A. I think, you know, refrigeration comes into that. Certainly if you are -- you know, allowing a significant period of time, say at room temperature, you are going to have some decomposition change. You know, we do the best we can. We refrigerate immediately upon receipt of the body, and that's our practice. And that's the specimens we get to derive our blood samples from.
Q. Okay. Well, that may be the practice, and it may be state of the art, my only question is: Isn't it well known that the longer the time between the post-mortem draw and the time of death, the more likely it is to be post-mortem redistribution?
MR. ERNST: Objection, vague as to time.

A. I don't know that that's true.

BY MR. MORIARTY:

Q. It says here in this Baselt chapter, again at the same page, 462, Fletcher, et al., 1979, suggested that post-mortem blood samples for digoxin assay be taken from the peripheral circulation within a few hours after death. That they be completely hemolyzed by freezing and thawing several times and centrifuged before analysis. The analytical value may then be multiplied by 1.3 to estimate the serum digoxin concentration at the moment of death.

Have you ever heard that?

A. Yes, I've heard that.

Q. Do you agree with it?

A. Sounds great.

Q. But of course the time of draw in this case was some 70 plus hours between Mr. McCornack's death and the blood draw; right?

A. That's true.

Q. Do you know whether the Dart toxicology text is a well-respected authority in the field of toxicology?

A. I've heard of it. You know, I haven't had much interaction with it.

Q. What has Mr. Ernst told you about when Mr. McCornack took his last digoxin dose prior to his death?

A. Nothing.
Q. So you don't know anything about that issue?
A. No.
Q. Do you know anything about the optimal timing of digoxin sampling, serum digoxin sampling in relation to dose in the living?
A. No.
Q. Have you ever read the Lanoxin or the Digitek label, whether it was in the PDR or in a package insert?
A. I think I've looked at it in the PDR, yeah.
Q. Does the -- do the labels for both of those products, Lanoxin and Digitek, indicate that the optimal time for sampling is six to eight hours after last dose?
A. I don't know. It sounds reasonable, yeah.
Q. Do you know what the volume of distribution for digoxin is?
A. No.
Q. Do you have an opinion in this case as to whether Mr. McCornack's digoxin redistributed after he died?
A. You know, if this was a cardiac sample, you know, I would feel that it would be a very strong possibility. Peripheral blood sample I'm not concerned about.
Q. Okay. What literature did you bring with you

today?

A. Oh, I've got the seventh edition of Baselt's book. I've got like -- all my books are old, 14th edition of Harrison's textbook of medicine on clinical toxicity of digoxin. I've got something from the 9th edition of Harrison.

And a few pages from Braunwald's Heart Disease, Textbook of Cardiovascular Medicine that mentions a variety of arrhythmias can be due to digitalis.

Q. Okay. These are -- other than the Baselt seventh edition chapter that you have, these are otherwise clinical references, are they not?

A. Yeah. I have to keep that stuff, because I'm looking at clinical records sometimes from clinical physicians and have some standards by which to, you know, judge them by.

Q. Okay. But you didn't look at other toxicology references to do any checking on the current literature on post-mortem redistribution of digoxin; is that correct?

A. That's correct.

MR. ERNST: We have been going about an hour and 15 minutes, I'd like to use the restroom.

MR. MORIARTY: You are more than welcome to do that. I will even stop questioning while you go.

MR. ERNST: Thank you. Take a ten-minute break?

(Break taken.)

(Marked Deposition Exhibits 9 through 15.)

MR. MORIARTY: First may I have Exhibit 7?

MS. DONAHUE: (Handing document to counsel.)

MR. MORIARTY: Thank you.

Q. This page that we put the Post-It on, that is going to be Exhibit 8 later, a separate Exhibit 8, is this the half-page sheet that you fill out and give to the deputy investigator for her to then fill out her report?

A. No. That's a carbon copy of NMS's toxicology request form.

Q. Okay. Is the half-page sheet that you fill out and give to the investigator part of Exhibit 7?

A. You know, I don't see it here. It should be. It should be.

Q. Have you looked in here for it? In Exhibit 7?

A. I recall looking in Exhibit 7 and I didn't see it.

Q. Okay.

A. It's not here.

Q. All right. In the NMS lab report it gives an alcohol, blood alcohol level.

Do you remember that?

A. Yeah.

Q. Did you try to compute how many drinks that would be for a man of Mr. McCornack's size?

A. I think it's .048 or something. I think you could call it a .05. You know, that probably represents about two and a half drinks, you know, for a 150 pound man, it would probably be a little bit more for a 220 pound man.

Q. Well, I happen to have the DMV from California's chart regarding this.

Have you ever seen this chart?

A. Yeah, I've seen it. Yeah.

Q. What did you say his level was?

A. Isn't it .048 or something? Yeah. .048. So call it a .05.

Q. All right. So .05 would be in the gray zone, and in a man 210 pounds and up --

MR. ERNST: What are we looking at here?

MR. MORIARTY: This is the printout from the California DMV, it's a chart.

Q. Just according to the California chart, what would -- how many drinks would that equate to in a man 210 pounds or more?

MR. ERNST: Well, the chart speaks for itself,

so you are asking him to interpret the chart.

MR. MORIARTY: I am, because it's hard to interpret.

MR. ERNST: It's a DMV chart and it's not something that I think he normally does. I object there is no foundation.

MR. MORIARTY: All right. And actually --

MR. ERNST: It's beyond -- there is no foundation, it's not authenticated, there is no basis for it, but he can go ahead and answer the question for discovery purposes.

MR. MORIARTY: Don, I think you just need to say the word objection, because that's what PTO 22 contemplates. I've let it go, but I'm not going to let it go anymore.

A. You know, this is a strange looking chart. I don't see the numbers for the --

BY MR. MORIARTY:

Q. Well, at least you and I agree on that. It's a strange looking chart.

Look on the next page. I think that's where they tell you what the blood alcohol equates to a shading?

A. Yeah, the gray, okay. Okay.

Q. So the gray --

A. The gray --
Q. -- is .05?
A. The gray is .05 to .07.
MR. ERNST: May I have a continuing objection to this line of questioning on my former basis, Counsel?
MR. MORIARTY: You certainly may.
MR. ERNST: Thank you.
THE WITNESS: I have no idea when he stopped drinking, though.
BY MR. MORIARTY:
Q. If you can't interpret the chart, just tell me you can't interpret the chart.
A. I'm trying to make you happy, Moriarty.
Q. I don't think so.
A. I'm having difficulties here. I don't know what to say about this chart.
Q. Okay. Then that's fine.
Would you agree with me that if you were trying to assess whether a drug was a cause of death, you would want to know the level of the drug in the body before death? If you could.
A. Yeah. Yeah. Uh-huh.
Q. And you would want to know the level after?
A. Yeah. If you could do that, yeah.
Q. And would you also want to know whether the

body and the drug are known to undergo post-mortem changes which would affect the drug level in the body?

MR. ERNST: Objection, compound.

A. You know, there are all sort of unknowables that one accepts in this business. You know, obviously I can't get drug levels before somebody dies and I'm restricted to examining their body and body fluids after death. So that's what I've got.

Q. All right. I understand your answer, but wouldn't you want to know, as a scientist, whether the body and the drug undergo post-mortem changes so that you could interpret the post-mortem level?

Yes or no.

A. What changes are you speaking of?

Q. Well, post-mortem redistribution, for one.

A. Whatever it is, you know, I can't tell. As I said before several times, I think it would be more of a prominent factor with heart blood and less with peripheral blood, and I've got peripheral blood there, so that's what I've got.

Would I want to know how exactly it worked, how it was quantified? Yeah, if I could, but I can't. There is no way for me to know these things.

Q. All right. But -- there is no way to know with certainty, but there is published literature from

scientists who have tried to evaluate post-mortem redistribution of digoxin, isn't there?

A. Yeah, there is some.

Q. And you have changed an autopsy and a death certificate cause of death based on a post-mortem whole blood digoxin level, haven't you?

A. I have.

Q. Okay. So apparently the post-mortem level of 3.6 was compelling information to you.

A. It sure is.

Q. All right. And in trying to figure out how compelling that information is scientifically, we would want to know how reliable that 3.6 is, wouldn't we, in predicting what his level was before he died?

A. Well, again, it's what I've got, it's what I normally use, and that's what I've got.

Q. It can't be what you normally use --

A. If you want, it would be some esoteric fudge factor for me to say how much was redistributed. I don't know. I don't know that somebody could tell you well, maybe it occurs this much in somebody, and it may be this much in somebody else. I don't know.

Q. And you can't say to a reasonable medical probability; right?

MR. ERNST: Objection, he has --

A. I think --

MR. ERNST: Objection.

BY MR. MORIARTY:

Q. Go on.

A. I think 3.6 represents a toxic level. And even if there is some added on by post-mortem redistribution, it's far above a level where you are not going to have toxic effects. So I think it represents a true toxic agent in this particular case.

Q. Okay. Has Mr. Ernst asked you to render any opinion about how the level reached 3.6, even if it's an accurate level?

A. No.

Q. So you are not going to express opinions about whether Diltiazem drove a level up or renal issues drove the level of that or any other cause; correct?

A. Correct.

Q. Do you read, or subscribe to, any medical journals and review them on a regular basis?

A. Yeah. Yeah.

Q. Which ones?

A. American Journal of Pathology, the -- I forget the title now, it's a forensic medicine journal, and I look at the New England Journal, read it in the library.

Q. What about the Journal of Clinical Pathology?

A. I used to. I don't subscribe to that anymore.
Q. When did you stop subscribing to it?
A. A number of years ago.
Q. Do you review it on line, even if you don't subscribe to it?
A. If there is some specific reference that I -- I'm interested in, I will go to the medical library and find it.
Q. Did you look for any articles about digoxin in the Journal of Clinical Pathology as part of your work in this case?
A. No, I didn't.
Q. Can you tell me whether you've done any research yourself on post-mortem redistribution of any drug?
A. No, I haven't.
Q. Do you have a -- any teaching appointments currently?
A. Yes, one.
Q. What is it?
A. I teach homicide investigation of police officers, San Jose State University, Department of Administration of Justice.
Q. I want to read you something from a year 2000 article from the Journal of Clinical Pathology and ask

you whether you agree with it.

MR. ERNST: Uhm --

MR. MORIARTY: No, is the answer to your next question. I don't even have the article to mark it as an exhibit if you asked.

MR. ERNST: I want the page and line number and title of the article.

MR. MORIARTY: Well, I can only tell you the authors were Cook and Braithwaite.

Q. It is often necessary to determine whether the drug concentration found at the post-mortem examination should be attributed to either therapeutic ingestion or overdose. This is very difficult to determine because of the influence of post-mortem change. The use of post-mortem/antemortem ratios, or back extrapolation from a post-mortem concentration is not recommended.

Do you agree or disagree?

MR. ERNST: Objection, compound. No foundation. Assumes facts not in evidence. It's an incomplete hypothetical.

A. That is a quote that you --

MR. MORIARTY: Objection under PTO 22.

MR. ERNST: You know what? Pardon me. It was a force of habit. Please forgive me. As long as we are here I will continue with just objection.

MR. MORIARTY: That's fine. That's really all you have to say.

THE WITNESS: Could I read that paragraph?

MR. MORIARTY: No, because it's in something I wrote. It's a memo.

THE WITNESS: You wrote it yourself?

BY MR. MORIARTY:

Q. No. Cook and Braithwaite wrote it.

A. And you are interpreting Cook and Braithwaite.

Q. No, I'm reading you a quote and just asking if you agree or disagree. It's out of the Journal of Clinical Pathology.

Do you agree with that statement or disagree with it?

MR. ERNST: Objection.

A. What was the point of the paragraph? Read -- making an evaluation of whether the -- an apparent overdose is deliberate or accidental, is that what you are saying?

BY MR. MORIARTY:

Q. This is a study done in which they analyzed whether drug concentrations post-mortem were reliable indicators of antemortem levels, and the quote is, it is often necessary to determine whether the drug concentration found at the post-mortem examination

should be attributed to either therapeutic ingestion or overdose. This is very difficult to determine because of the influence of post-mortem change. The use of PM/AM, which I assume means post-mortem/antemortem, ratios or back extrapolation from a post-mortem concentration is not recommended.

Do you agree or disagree?

MR. ERNST: Objection.

A. It's awfully vague. This is something where we are sort of asked to do all the time, to look at a post-mortem level of drug and give an opinion as to whether it's significant or not. And in relation to cause of death, all I can tell you is you look at the numbers, and you look at the drug, and come to some conclusion. That's all. That's what we are required to do under the law.

BY MR. MORIARTY:

Q. I understand that, but not all drugs are the same post-mortem; correct? I mean, some redistribute and some don't; right?

MR. ERNST: Objection.

BY MR. MORIARTY:

Q. Some have affinities for different tissue and some don't?

A. Yes, some have affinity for redistribution and

some don't, sure.

Q. And digoxin has an affinity for muscle tissue, skeletal and cardiac; correct?

A. Yes, it does.

Q. When somebody dies there is changes in pressure and metabolism and fluid shifts that cause things to leach out of skeletal muscle into blood; correct?

A. Yes.

Q. So something that may not be in the blood or serum at the time somebody is alive may be in the blood or serum after they are dead; correct?

A. It's possible, sure.

Q. Have you been shown any information at all to indicate that Mr. McCornack took Digitek tablets that were outside of their labeled specification range?

MR. ERNST: Objection.

A. No.

BY MR. MORIARTY:

Q. Okay. I'm sort of in the home stretch, I think. It may be a long stretch, but a home stretch.

A. Take your time. You are paying for it.

Q. This 3.6 level, the post-mortem digoxin level from the NMS blood specimen, am I correct that that level standing alone does not prove the cause of Mr. McCornack's death?

MR. ERNST: Objection.

A. It's a toxic level. My inference is that it caused some sort of adverse reaction to his heart and caused his death. It's -- you know, given just the number, it's a toxic level.

BY MR. MORIARTY:

Q. Well, the Diltiazem level is three times the level and it causes sudden cardiac death as an adverse reaction, too. How come Diltiazem is not a cause of death?

A. You've got a good point there. Maybe I should have listed both of them.

Q. Since I've suggested it, are you going to revise Exhibits 4 and 5 tomorrow so that when I come back next week we will have more exhibits?

MR. ERNST: Objection.

MR. MORIARTY: I'll withdraw that question.

A. I'll probably have to think about it for a couple of months.

BY MR. MORIARTY:

Q. When you were doing the autopsy and dictated your initial report, which was Exhibit 2, based on the evidence you had before you, including the medical records you had from Drs. Von Dollen and Lemm, I assume there were plausible explanations for his sudden death

that had nothing to do with digoxin; is that correct?

A. Yeah. In this business you take what you get. He had some hypertensive heart disease, he had some myocardial fibrosis, he had some coronary arteriosclerosis.

If you don't find anything better, then you use those. That's the way it works.

Q. And in the Lemm and Von Dollen records, did you find any serum digoxin concentrations that were anywhere close to even the day he died?

A. I don't recall that I did, no.

Q. Would you like to look? I can assure you there are none for almost a year or more.

A. You look like an honest Irishman to me, I'll take your word for it.

Q. So there weren't any, to your knowledge?

A. I don't think there were.

Q. Did you see any medical records close to the time of his death indicating that he had signs or symptoms of digoxin toxicity?

A. No, I don't recall seeing that.

Q. And I think I asked you before, there were no EKGs so we can't evaluate whether he had any arrhythmias consistent with digoxin toxicity; is that correct?

A. That's correct.

Q. Let me make sure I understand your opinion.

Is it your opinion, to a probability, that the level of 3.6 is higher than it was just before he died?

And then we will go on to examine quantification of that.

A. I don't know. I'm taking the 3.6 as a representative number for his digoxin level at or about the time that he died.

Q. Why?

A. Because it's what I've got. And that's the way I'm doing it.

Q. Okay. But what you have got was drawn over 70 hours after his death, and I'm just wondering what's the scientific basis beyond "it's what I've got" for your accepting that that is what it was at the time of death?

MR. ERNST: Objection.

A. The body was refrigerated for the post-mortem interval. I'm not saying that it couldn't be a little bit higher than it was at the time of death. I'm saying it's a good enough representation of what his digoxin level was at the time of death, and it's the basis for the diagnosis of arrhythmia due to digitalis toxicity.

BY MR. MORIARTY:

Q. Or Diltiazem?

A. Or Diltiazem.

MR. ERNST: Well --

A. Or both.

MR. ERNST: Objection.

BY MR. MORIARTY:

Q. Now, in the studies --

MR. ERNST: You want to take a break?

MR. MORIARTY: No, I don't.

Q. In the studies regarding post-mortem redistribution of digoxin, do you know whether or not those dead bodies had been refrigerated or not refrigerated?

A. I don't know.

Q. What is the -- the mere fact of refrigeration for 60 to 65 hours, whatever the number happened to be by the time they got Mr. McCornack to the morgue, what's the scientific principle that makes that blood specimen scientifically reflective?

A. It's pretty basic. Everything moves slower when it gets cold. Biologic processes, decomp, whatever.

Q. Do you have any idea how long after his death he made it to the refrigeration equipment in your facility?

A. Within an hour or two of being reported to us.

Q. Well, somebody had go to the scene and

pronounce him dead; correct?

A. Yes.

Q. And then I don't know how far this campground is from your facility.

Do you know the answer to that?

A. It's about 20, 25 minutes, maybe. Late at night.

Q. I'm just trying to find out, since this may be my one and only chance to ask you about this, all the scientific reasons that you can express to me why you believe that 3.6 in the NMS lab report is reflective and does not represent a substantial post-mortem redistribution.

MR. ERNST: Objection.

A. You know, I think I iterated them a number of times already.

BY MR. MORIARTY:

Q. Okay. So you have nothing to add to what I've already asked you?

A. No.

Q. Okay. All right. Just so I'm clear, because I got off track where I was, I had asked you about clinical evidence of digoxin toxicity in any of the medical records, and you said you didn't have any available to you to indicate that; correct?

A. Correct.

Q. Is there anything from Exhibit 1, the -- your investigator's report, that gives you clinical evidence of digoxin toxicity?

A. No.

Q. And then there was no electrocardiographic and no antemortem lab levels; correct?

A. Correct.

Q. So the only piece of evidence that you have to support what you have said in Exhibits 4 and 5 about the new cause of death is the post-mortem lab level of 3.6; correct?

A. Correct.

Q. In the State of California, does a -- is a clinician asked to sign death certificates or is it always the coroner or the coroner's investigation?

A. We do everything but kiss their rosy red bottoms to get them to sign death certificates. We would be very happy. Now if something is due -- the primary type of case in which they can sign death certificates, it has to be a natural death.

Anything where death is due to trauma, even relatively minor trauma, the code prevents them from signing the death certificate. But if it's a natural death and they are familiar with the medical history of

the patient, the code states that they should have seen the patient within 20 days, but there are amendments to that, and if they have seen the patient for, you know, up to six, nine months, and they feel confident that they are familiar with the patient's medical condition, they prescribed for the patient, they can sign and we encourage them to do so.

What we find most the time is that they are very reluctant to sign death certificates.

Q. Do you know whether your office ever asked either Dr. Lemm or Dr. Von Dollen to sign the original death certificate, Exhibit 3?

A. You know, I can't tell you for a fact that they did. I'm assuming that they made inquiry as to whether they would.

Q. And when you say "they," are you talking about the sheriff's investigators?

A. I'm talking the investigators. I've only got three.

Q. Do you know if any of the investigators have asked either Dr. Von Dollen or Dr. Lemm to sign the new death certificate, Exhibit 4?

A. It's the coroner's case, they couldn't. It's an accidental death.

Q. Well, up until yesterday it was a natural

death.

A. Yes, but it's not any longer, it's an accidental death.

Q. So they will no longer be asked to sign the death certificate for Mr. McCornack; correct?

A. Correct.

Q. Do you -- I assume, based on what you have told me so far, you do not prescribe cardiac glycocides?

A. No.

Q. You don't prescribe calcium channel blockers?

A. No.

Q. Do you have any clinical experience with serum digoxin concentration levels in the living?

A. No.

Q. When you were practicing back in the late '60s, were serum digoxin concentration assays even commercially available?

A. I don't believe so, no.

Q. How often do you believe you are called upon to render opinions that a drug was a cause of death or contributed to cause of death?

A. It's fairly frequent. We get a fair number of overdose cases per year.

Q. Is it fair to say that the more medications a person is on, the higher the risk that they may interact

in some way?

MR. ERNST: Objection.

A. Yes, that sounds reasonable, sure.

BY MR. MORIARTY:

Q. Do you know anything about Mr. McCornack's renal status?

A. No. They were fairly normal-looking kidneys, and I've got no history of any renal problems.

Q. Do you know whether diminished excretion of digoxin from the kidneys because of renal insufficiency can elevate serum digoxin concentrations?

A. Yes, it can.

Q. Do you have any opinion in this case as to whether Mr. McCornack had any renal insufficiency that would have elevated his digoxin levels --

A. I don't recall --

Q. -- antemortem?

A. I don't recall seeing anything in the medical records that I have that he has any renal insufficiency.

Q. Okay.

MR. MORIARTY: I'm missing a bunch of exhibits and they are not under my elbows.

MR. ERNST: (Handing documents to counsel.)

MR. MORIARTY: Thank you.

Q. Do you know what lab studies in the living are

typically referred to when trying to analyze whether somebody has renal insufficiency or not?

A. You could, you know, you could look at creatinine, creatinine clearance, things of that nature.

Q. "Things of that nature" being BUN?

A. BUN elevated.

Q. And estimated glomerular filtration rate?

A. Filtration rate.

Q. All right. When we took our last break I had been asking you about literature, and during the break we went through and marked some of the literature that you brought.

Exhibit 9 is the seventh edition of Baselt's text, the chapter on digoxin; is that correct?

A. Correct.

Q. And you brought that with you?

A. Yes.

Q. And Exhibit 10, do you know if -- this kind of looks like Harrison's. Is that what this is?

A. Yes.

Q. No, actually --

A. Wait a minute.

Q. I'm sorry. It's actually Tortora and -- it's Tortora's anatomy and physiology text.

A. Yes.

Q. I should know that, I have that book.

11 is something from the second edition of Braunwald's text?

A. Yes.

Q. Pretty old edition, isn't it?

A. Yeah.

Q. 12, Exhibit 12, is from -- some information you pulled from Harrison's; correct?

A. Correct.

Q. Do you know what Exhibit 13 is from? Looks like Harrison's again --

A. Yes.

Q. -- right?

And then 14 and 15 are letters that I assume you received from Don Ernst; is that correct?

A. Correct.

Q. It says here in the May 7, 2009 letter that he would like to retain your services as an expert and consultant in this case.

Have you agreed to do that for him?

A. Yes.

Q. Have you billed him to date for any services in this case?

A. I billed him $500 for this meeting that we had at the jet center here on May 27, '09.

Q. For consulting with lawyers on civil cases do you charge by the hour?

A. $500 an hour, yes.

Q. Am I being charged the same thing --

A. You are.

Q. -- for the time spent in this questioning; right?

A. Correct.

Q. At the time Mr. Ernst wrote you this letter on May 7th, 2009, the then existing autopsy and death certificate were Exhibits 2, the autopsy, and 3, the death certificate; correct?

A. Correct.

Q. And then later, sometime in the middle of the summer, Mr. Ernst sent you Exhibit 15 with certain materials; correct?

A. Yes.

Q. And he resent the NMS labs report that in fact your office had had for over a year at that point; correct?

A. Yes.

MR. MORIARTY: All right. Let me just talk to Alicia, and then I'll be done with questioning and the two of you can have whatever fun you want.

Is that okay?

MR. ERNST: Sure.

(Break taken.)

EXAMINATION BY MS. DONAHUE

Q. Good afternoon, Doctor, we met before the deposition. I'm Alicia Donahue --

A. Yes.

Q. -- representing the Mylan defendants in this case. I have just a few questions for you. Probably more of a general nature.

We have talked a little bit, quite a bit in your deposition about this changed -- addendum to the death certificate and changes to your original report that you made yesterday; correct?

A. Yes.

Q. And yesterday is approximately six months, give or take a few days, post the original report?

A. Yes.

Q. Okay. In the normal scope of your general practice as the coroner of the County of Santa Cruz, or the, quote unquote, coroner, is it unusual for you to amend a report so far after your original report?

A. Could be as much as a year.

Q. In the past year how often have you changed your original report six months post the time that you wrote it?

A. There may have been two or three other cases.

Q. Okay. And if you think back, you know, five years past in your career, how often has that happened?

A. You know, I don't know. Again, it wouldn't surprise me if it could occur two or three times a year.

Q. So you wouldn't describe it as something unusual.

A. No. No.

Q. You testified in response to Mr. Moriarty's questioning that -- let me look at my notes so I will get it right.

He asked you about the circumstances of the change in your report, the circumstances leading up to them, and you said I had decided to do it, to make the change, after getting the NMS results but I just didn't get around to it because I had 180 cases that came in between, so I did it yesterday.

That's the kind of gist of your testimony.

A. Yes.

Q. Okay. In regard to the meeting that you had with Mr. Ernst back in May, had you made the decision to change your report before going to that meeting?

A. Yes.

Q. Do you remember how long before?

A. No.

Q. Do you remember how long before that report you had seen -- before that meeting with Mr. Ernst you had seen the NMS report?

A. I don't recall.

MS. DONAHUE: That's all the questions I have. Thank you.

THE WITNESS: Thank you.

MR. ERNST: I have no questions.

MR. MORIARTY: Okay.

MR. ERNST: Just clarification, though.

Exhibit 5, may I look at Exhibit 5?

MR. MORIARTY: They are in order now. You are not going to mess up my stack, are you?

MR. ERNST: Well --

EXAMINATION BY MR. ERNST

Q. Exhibit 5, the cover sheet, ventricular arrhythmia, digoxin toxicity, digoxin poisoning, accidental death is your opinion today; true?

A. Yes.

MR. ERNST: Thank you. That's all.

FURTHER EXAMINATION BY MR. MORIARTY

Q. Do you have any other opinions that are not contained in Exhibits 4 or 5 and that we have not yet asked you about today?

A. No.

MR. ERNST: Objection.

A. No.

MR. MORIARTY: What's the basis for that objection? I want the ability to cure that one.

MR. ERNST: There may be information that will derive from later depositions and information that will be distributed amongst all experts he may have other opinions for.

BY MR. MORIARTY:

Q. I'm just asking you today do you have any other opinions that are A, not contained in Exhibits 4 or 5; and B, that I have not asked you about yet?

A. No.

MR. MORIARTY: Okay.

MS. DONAHUE: One last question from me.

MR. MORIARTY: I'm not done.

MS. DONAHUE: Sorry.

BY MR. MORIARTY:

Q. If you do develop new opinions would you please let Mr. Ernst know so under the rules of the court he can let me know?

A. Yes, I will.

Q. All right. I will be asked at some point, I assume, to send you payment for the time we spent here today; correct?

A. Correct.

Q. And you know that I will need probably a W-9; correct?

A. Yeah, okay.

Q. And I'll need to know to whom to make out the check; okay? And would that be you as an individual, or the coroner's office, or do you have a like a corporation?

A. Yeah, it's Richard T. Mason, MD, Inc.

Q. All right.

A. And I will need your business card to know where to send it.

Q. You will get that.

MR. ERNST: Do you have that card?

MR. MORIARTY: I might give it to him several months from now. Yeah, I'll give it to you.

Q. And what percent of your time is spent in private consulting work such as this case, now, as opposed to your official capacity as the coroner?

A. Less than 10 percent.

Q. Okay. Is there -- when you do change or amend a report, as Ms. Donahue was asking you about, is there any procedure that you have to go through within the system of the coroner's office?

A. Yeah. I have to let the sergeant, who is the

section chief, know about it and then I have to execute those forms and it has to be entered into this new computerized system. And that's been done. It was done yesterday.

Q. All right.

A. Better late than never.

Q. Okay. Is there anything else about that process?

A. No.

MR. MORIARTY: Okay. All right. I don't have any other questions.

You are familiar with the reading and signing process?

THE WITNESS: Yeah.

MR. MORIARTY: She will send you a transcript.

THE WITNESS: Sure.

MR. MORIARTY: You need to check it for accuracy.

THE WITNESS: Okay, I can do that.

MR. MORIARTY: Okay?

Now I'm going to have the court reporter take all these and instead of pulling this apart and trying to find a copy machine today, she will make this flagged page Exhibit 8; okay?

MR. ERNST: Yes.

MR. MORIARTY: And then you have --

There are no originals in here that you need back; correct?

THE WITNESS: No, those are all copies.

MR. MORIARTY: Then we don't have to worry --

THE WITNESS: Those copies or some copies I would like to get back.

MR. MORIARTY: Okay. You can have a set of exhibits when you get your transcript, keep them.

THE WITNESS: That's a good idea.

MR. ERNST: Can I request when the court reporter makes a copy she adds additional copies of exhibits for the doctor's file so that they will be complete as he presented them here today.

MR. MORIARTY: Okay. We can do that.

MS. DONAHUE: Okay. I get to ask my question? A couple.

MR. ERNST: I thought you were done.

MS. DONAHUE: A couple more.

FURTHER EXAMINATION BY MS. DONAHUE

Q. This may be -- I'm not a forensic specialist, so this may be a naive question. I'm curious, why was an autopsy performed on Mr. McCornack?

A. Well, you know, I think an autopsy was done because the clinical physicians taking care of his

care -- first off, he is an out-of-town patient, so the requirement for a civilian physician to sign the death certificate, he has to have a California medical license, so if his doctor was in San Luis Obispo he could very well have signed if he was willing to do so.

As I alluded to before, you get a lot of reluctance on the part of the clinical physicians to sign death certificates, you know, if they haven't seen the patient within a very short period of time or the patient is out of town somewhere or they have the feeling that they are not in control of the situation.

So the case would be referred to us then.

Q. So between the time that Mr. McCornack's body was picked up by the sheriff and brought to your facility, between that time and the time that you performed the autopsy, someone, either one of his physicians or perhaps his wife, someone requested that an autopsy be performed?

A. No, no, no.

Q. No?

A. No. It's done without permission. Under the code, Government Code, Health and Safety Code, State of California, I have a right to autopsy people without the permission of the family. Some jurisdictions are more casual. I always have in mind that I'm going to be

sitting in the witness chair at some point in time and somebody is going to say well, you didn't do something or you didn't take adequate care to make a determination. So we -- we are pretty cautious and we have about -- in our county about an 80 percent autopsy rate.

You know, it was just the circumstances, he is at a campground with his family, you know, perhaps they were drinking or, you know, perhaps he was using some other kind of medication or recreational drugs or whatever. So the autopsy sort of rules out all these things.

Or somebody with hypertension might have a sudden intercranial hemorrhage or a stroke, something of that nature.

Q. I'm glad you clarified that for me.

So based on the circumstances of his death, as reported to you by the sheriff, you made the determination that an autopsy should be performed in this case?

A. Yes. That this is my, you know, my influence in the procedure. They usually leave it up to me as to whether do we really need an autopsy here or not. And as I said, we probably do a higher percentage than maybe some other jurisdictions.

Q. Okay. All right. Thank you. And one last question.

I think Exhibit 14 is the March 7 letter from Mr. Ernst retaining you as an expert.

A. Yes.

Q. And again same -- similar question as I asked before, had you made a decision to change the cause of death, your cause of death opinion in regard to Mr. McCornack before Mr. Ernst retained you as an expert?

A. Yes.

Q. So you know you had made that decision before he retained you, but you don't know at what point before?

A. No.

Q. You can't even give me an estimate?

A. You know, at whatever point I became aware -- the cases have to go through at a fairly rapid rate. And, you know, there is always new ones coming down the chute, and at some time I became aware of the NMS report and at that point I made the decision.

Q. Last question, even though it's not mine.

MR. MORIARTY: It would have made it easier if I asked him. I thought you would get mad at me and, you know, I don't want that. I have to spend a lot of time with you.

BY MS. DONAHUE:

Q. Can you tell if someone has had a true myocardial infraction [sic] without a microscopic examination of the heart?

MR. MORIARTY: Infarction.

BY MS. DONAHUE:

Q. Infarction.

A. Infarction.

Even if they don't survive a period of at least 24 hours, changes are quite difficult to interpret. Normally you look for an influx of white blood cells into an area essentially of dead tissue. That's what an infarction is. You have interrupted the blood supply and muscular tissue has died, essentially, and it's going to have to be broken down by the white cells of the body and taken away and replaced by fibrous tissue.

In the early stages, under 24 hours, all you see is some very, very subtle changes in the myocardium, and it can be very difficult to interpret. You may not be able to interpret it.

A lot of the cases, because of that, get signed out as arrhythmias, probable arrhythmias. And again, I can't see arrhythmias with my dissecting knife, but I see other changes, and you know, I'm assuming that there has been an arrhythmia and consequent cardiac arrest.

FURTHER EXAMINATION BY MR. MORIARTY

Q. If I understand everything you just said, true MI was a possibility here.

MR. ERNST: Objection.

BY MR. MORIARTY:

Q. Right?

A. It's a possibility, yes.

MR. MORIARTY: That's it. I promise that's it.

(Time Noted: 4:22 p.m.)

I hereby certify that I have read my deposition, made those changes and corrections I deem necessary, and approve the same as now written.

Dated this_____ day of _____, 2009.

_____

Under Penalty of Perjury

REPORTER'S CERTIFICATE

The undersigned Certified Shorthand Reporter licensed in the State of California does hereby certify:

I am authorized to administer oaths or affirmations pursuant to Code of Civil Procedure, Section 2093(b), and prior to being examined, the witness was duly administered an oath by me.

I am not a relative or employee or attorney or counsel of any of the parties, nor am I a relative or employee of such attorney or counsel, nor am I financially interested in the outcome of this action.

I am the deposition officer who stenographically recorded the testimony in the foregoing deposition, and the foregoing transcript is a true record of the testimony given by the witness.

Before completion of the deposition, review of the transcript [x] was [ ] was not requested. If requested, any changes made by the deponent (and provided to the reporter) during the period allowed are appended hereto.

In witness whereof, I have subscribed my name this 6th day of October, 2009.

_____
Allison Ash-Hoyman, CSR No. 7412